

## REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of March 30, 2009 is respectfully requested.

By this Amendment, claims 73, 74, 79 and 80 have been amended, and new claims 85 and 86 have been added. Thus, claims 73-86 are currently pending in the application. No new matter has been added by these amendments.

Applicants would like to thank the Examiner for her courtesy in granting and conducting the telephone interview of September 15, 2009. Specific portions of the interview will be referred to in the following discussion.

On page 3 of the Office Action, the Examiner rejected claims 73-84 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner indicates that the phrase “while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof” in claims 73 and 79 constitutes new matter. Without acquiescing to the Examiner’s assertion that the identified limitation constitutes new matter, it is noted that the phrase “while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof” has been deleted in amended claims 73 and 79. Accordingly, it is respectfully submitted that the Examiner’s rejection under 35 U.S.C. § 112, first paragraph, is not applicable to amended claims 73 and 79.

On pages 4-5 of the Office Action, the Examiner rejected claims 73-84 under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Examiner indicated that the meaning of the phrase “while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof” in claims 73 and 79 is unclear. As indicated above, it is noted that the phrase “while adjusting an amount of the liquid elastic body in the cooling holes so that the liquid elastic body is reduced in volume with hardening thereof” has been deleted in amended claims 73 and 79, and therefore it is respectfully submitted that the Examiner’s rejection under § 112, second paragraph, is not applicable to amended claims 73 and 79.

In addition, the Examiner noted that the phrase “said cooling holes are not drilled through” in claims 74 and 80 is unclear as to when the coating holes would be drilled through. During the telephone interview of September 15, 2009, the Examiner indicated that this portion

of claims 74 and 80 appeared to be unclear due to the use of the term “drilled,” and that this limitation could be more clearly recited by defining the structural appearance of the cooling holes without the use of the term “drilled.” In this regard, it is noted that claims 74 and 80 have been amended to recite that the cooling holes “extend into the component from a surface of the component without passing entirely through the component” as is clearly shown, for example, in Fig. 1A. Accordingly, it is respectfully submitted that the Examiner’s rejection under § 112, second paragraph, is not applicable to amended claims 74 and 80.

On pages 7-10 of the Office Action, the Examiner rejected claims 73, 74, 76, 77, 79, 80 and 82-83 under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Clingman et al. (US 5,130,163), as evidenced by “GE Silicones RTV 11” Data Sheet (hereinafter RTV 11 Sheet). On pages 10-11 of the Office Action, the Examiner rejected claims 75 and 81 under 35 U.S.C. § 103(a) as being unpatentable over Clingman, as evidenced by RTV 11 Sheet, and further in view of the admitted state of the prior art. On pages 11-12 of the Office Action, the Examiner rejected claims 78 and 84 under 35 U.S.C. § 103(a) as being unpatentable over Clingman, as evidenced by RTV 11 Sheet, and further in view of Kang et al. (US 5,800,695). For the reasons discussed below, it is respectfully submitted that the amended claims are clearly patentable over the prior art of record.

Amended independent claim 73 recites a method of forming a thermal barrier coating on a surface of a component having cooling holes. The method of claim 73 includes forming masking pins in the cooling holes by injecting a liquid elastic body into each of the cooling holes, and by thereafter hardening the liquid elastic body in the cooling holes, wherein the hardening of the liquid elastic body includes volumetric shrinkage of the liquid elastic body. The method of claim 73 also includes forming the thermal barrier coating on the surface of the component by spray coating after the forming of the masking pins. Further, claim 73 recites that an injection amount of the liquid elastic body is adjusted so that a surface of the elastic body injected into each of the cooling holes protrudes above the surface of the component when the liquid elastic body is injected into the cooling holes, and so that the masking pins after hardening do not protrude above the surface of the component.

Amended independent claim 79 recites a method of forming a thermal barrier coating on a surface of a component having cooling holes. The method of claim 79 includes forming masking pins in the cooling holes by injecting a liquid elastic body into each of the cooling

holes, and by thereafter hardening the liquid elastic body in the cooling holes, wherein the hardening of the liquid elastic body includes volumetric shrinkage of the liquid elastic body. The method of claim 79 also includes blasting the surface of the component so as to coarsen the surface of the component, and forming the thermal barrier coating on the surface of the component by spray coating after the forming of the masking pins and the blasting of the surface of the component. Further, claim 79 recites that an injection amount of the liquid elastic body is adjusted so that a surface of the elastic body injected into each of the cooling holes protrudes above the surface of the component when the liquid elastic body is injected into the cooling holes, and so that the masking pins after hardening do not protrude above the surface of the component.

Clingman discloses a coating method which, as shown in Figs. 2-4, includes maskant plugs 30 being formed in side perforations 22 of an inside lamina 12. However, Clingman does not disclose forming masking pins in the cooling holes by *injecting a liquid elastic body into each of the cooling holes, wherein an injection amount of the liquid elastic body is adjusted so that a surface of the elastic body injected into each of the cooling holes protrudes above the surface of the component when the liquid elastic body is injected into the cooling holes, and so that the masking pins after hardening do not protrude above the surface of the component*, as required by independent claims 73 and 79. Rather, Clingman discloses liberally troweling a viscous spreadable maskant 28 to the exposed side 20 of an inside lamina 12, as shown in Fig. 3, and does not disclose forming masking pins in the cooling holes by injecting a liquid elastic body into each of the cooling holes, wherein an injection amount of the liquid elastic body is adjusted so that a surface of the elastic body injected into each of the cooling holes protrudes above the surface of the component when the liquid elastic body is injected into the cooling holes, and so that the masking pins after hardening do not protrude above the surface of the component, as required by independent claims 73 and 79.

RTV 11 Sheet discloses properties of the silicone rubber compound RTV 11, but does not disclose forming masking pins in the cooling holes by injecting a liquid elastic body into each of the cooling holes, wherein an injection amount of the liquid elastic body is adjusted so that a surface of the elastic body injected into each of the cooling holes protrudes above the surface of the component when the liquid elastic body is injected into the cooling holes, and so that the

masking pins after hardening do not protrude above the surface of the component, as required by independent claims 73 and 79.

Therefore, for the reasons presented above, it is believed apparent that the present invention as recited in independent claims 73 and 79 is not disclosed or suggested by the Clingman reference and the RTV 11 Sheet taken either individually or in combination. Accordingly, a person having ordinary skill in the art would clearly not have modified the Clingman reference in view of the RTV 11 Sheet in such a manner as to result in or otherwise render obvious the present invention of independent claims 73 and 79.


Further, it is noted that none of the additionally cited prior art discloses forming masking pins in the cooling holes by injecting a liquid elastic body into each of the cooling holes, wherein an injection amount of the liquid elastic body is adjusted so that a surface of the elastic body injected into each of the cooling holes protrudes above the surface of the component when the liquid elastic body is injected into the cooling holes, and so that the masking pins after hardening do not protrude above the surface of the component, as required by independent claims 73 and 79

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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